

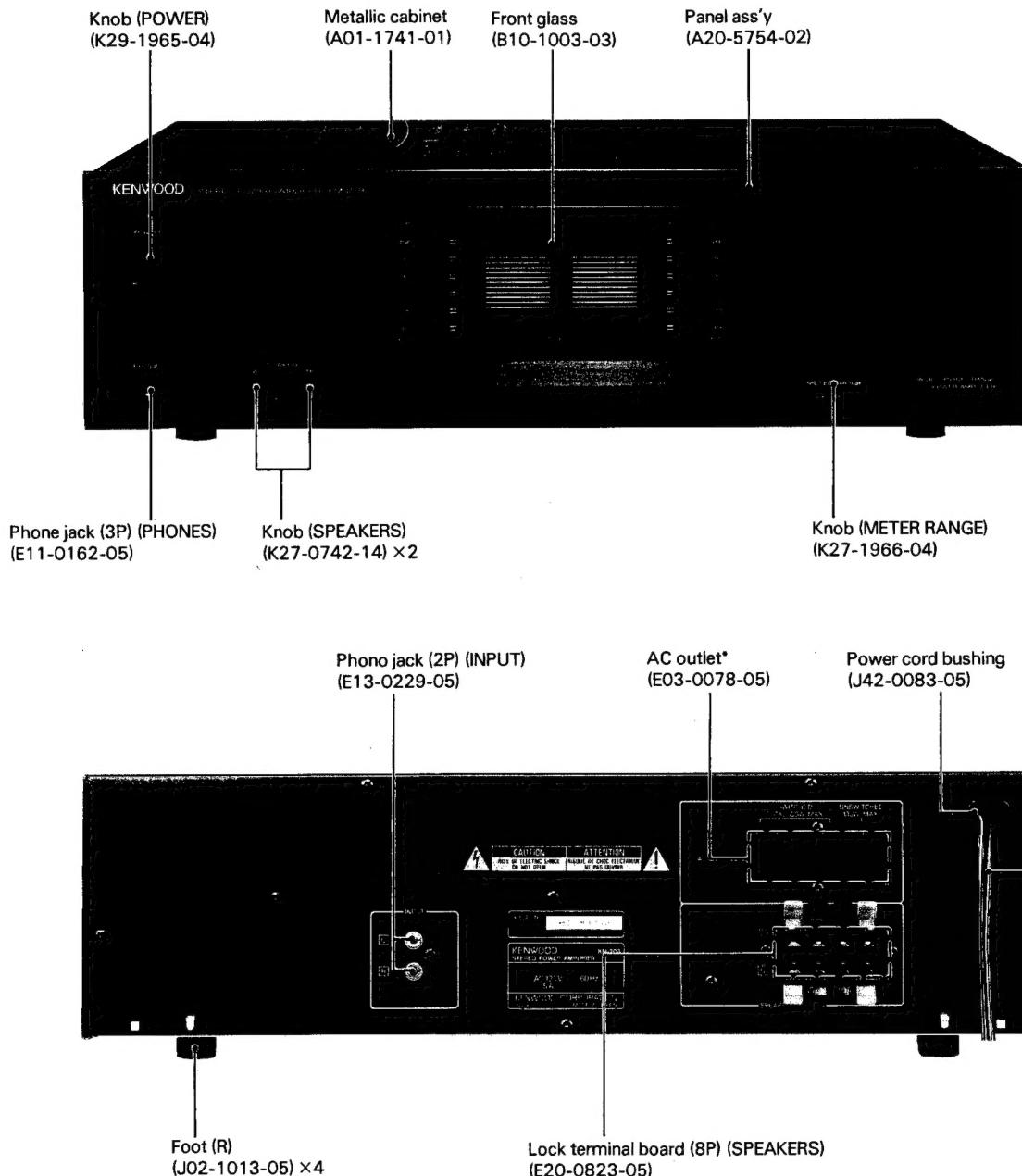
STEREO POWER AMPLIFIER

# KM-208

## SERVICE MANUAL

KENWOOD

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B51-3863-00(B)1755

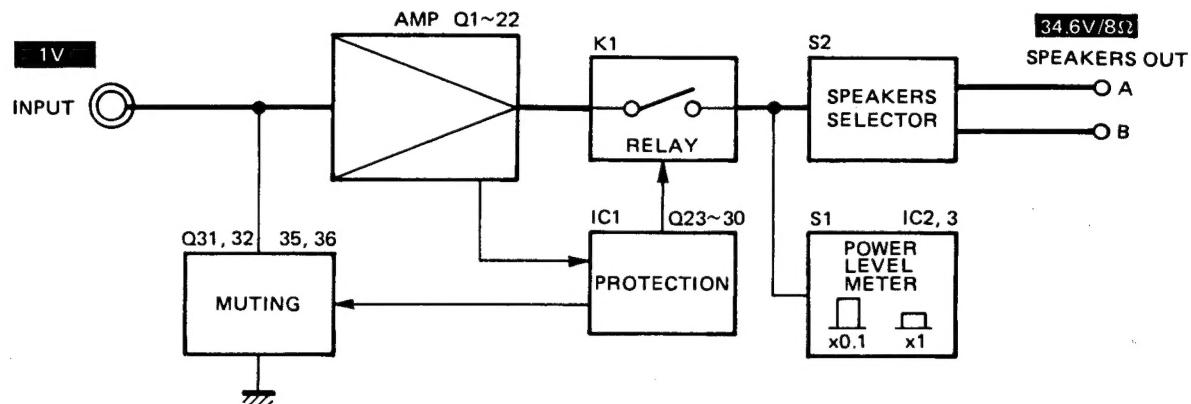


\*Refer to parts list or page 15.

# KM-208

## BLOCK DIAGRAM/CIRCUIT DESCRIPTION

### BLOCK LEVEL DIAGRAM



### CIRCUIT DESCRIPTION

#### Description of Components

#### POWER AMPLIFIER UNIT (X07-2430-XX, X07-2460-XX)

Components	Application/Function	Operation/Condition/Compatibility
Q1 ~ 4	Initial stage differential amplifier	Low noise.
Q5 ~ 8	2nd stage differential amplifier	
Q9, 10	3rd stage amplifier	Class A cascade current amplifier.
Q11, 12	3rd stage amplifier	Class A cascade voltage amplifier.
Q13, 14	Bias temperature compensation	
Q15 ~ 18	Class B driver	
Q19 ~ 22	Power amplifier	
Q23 ~ 30	Current protection	
Q31, 32	Input muting	
Q33	Driver for relay driver IC	Current protection.
Q34	Constant voltage control	
Q35, 36	Muting driver	
Q37	AVR	For meter driver.
IC1	Relay driver IC	
IC2, 3	Meter driver	

# KM-208

## ADJUSTMENT/REGLAGE/ABGLEICH

### ADJUSTMENT

No.	ITEM	INPUT SETTINGS	OUTPUT SETTINGS	AMPLIFIER SETTINGS	ALIGNMENT POINTS	ALIGN FOR	FIG.
1	IDLE CURRENT	-	Connect a DC voltmeter across CP1 (L) CP2 (R)	VOLUME: 0	VR1 (L) VR2 (R)	9~18mV	(a)

### REGLAGE

N°	ITEM	REGLAGE DE L'ENTREE	REGLAGE DE LA SORTIE	REGLAGE DE L'AMPLIFICATEUR	POINS L'ALIGNEMENT	ALIGNER POUR	FIG.
1	COURANT DE POLARISATION	-	Connecter un voltmètre de CC sur CP1 (G) CP2 (D)	VOLUME: 0	VR1 (C) VR2 (D)	9~18mV	(a)

### ABGLEICH

NR.	GEGENSTAND	EINGANGSEINSTELLUNG	AUSGANGSEINSTELLUNG	VORSTARKEREINSTELLUNG	ABGLEICH-PUNKTE	ABGLEICHEN FÜR	ABB.
1	LEERLAUFSTROM		Einen Gleichspannungsmesser über CP1 (L) CP2 (R) anschließen.	VOLUME: 0	VR1 (L) VR2 (R)	9~18mV	(a)

# KM-208

## VOLTAGE CHECK TABLE

X07-2430-XX

X07-2460-XX

	B	C	E
Q1 - 4	—	17.7V	-18V
Q5, 6	17.7V	80.3V	17V
Q7, 8	17.7V	81V	17V
Q9, 10	80.3V	77.8V	81V
Q11, 12	77.2V	1.2V	77.8V
Q13, 14	—	1.2V	-1.2V
Q15, 16	—	81V	0.6V
Q17, 18	—	-81V	-0.6V
Q19, 20	—	81V	—
Q21, 22	—	-81V	—
Q23, 24	—	—	0V
Q27, 28	—	—	1.2V
Q29, 30	—	—	-1.2V
Q33	81V	—	81V
Q34	24V	34V	23.4V
Q35	0V	—	0V
Q36	23V	Relay ON : -12V Relay OFF : 23V	23V
Q37	—	—	14.7V

IC1

4	2.7V
5	0V
6	0.8V
7	2.2V
8	3.2V

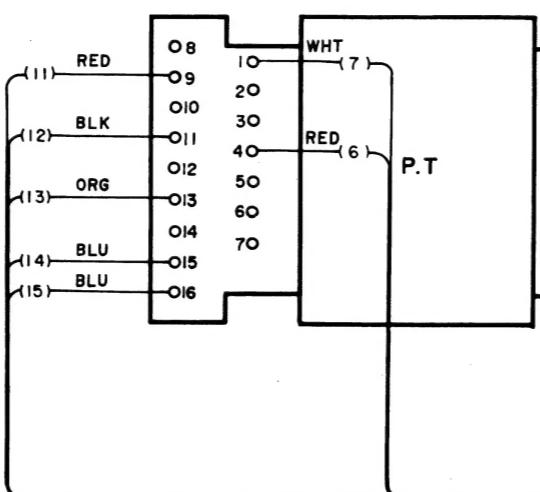
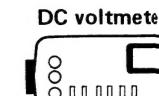
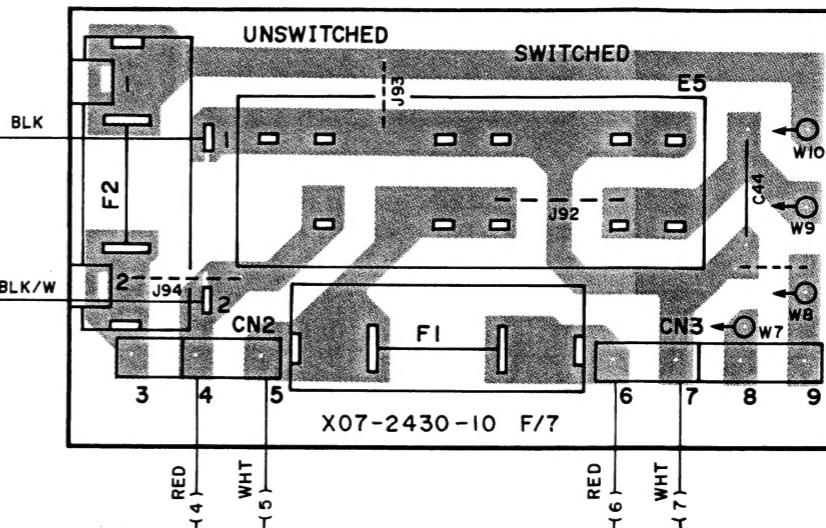
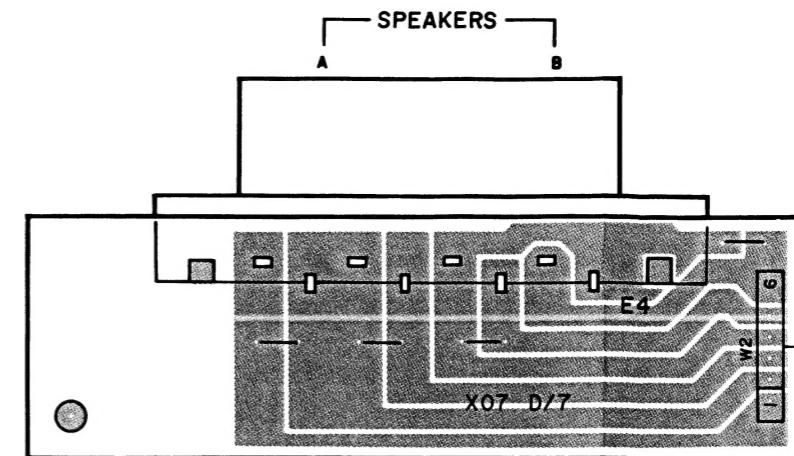
IC2, 3

7	14.7V
8	0V
10	14.7V

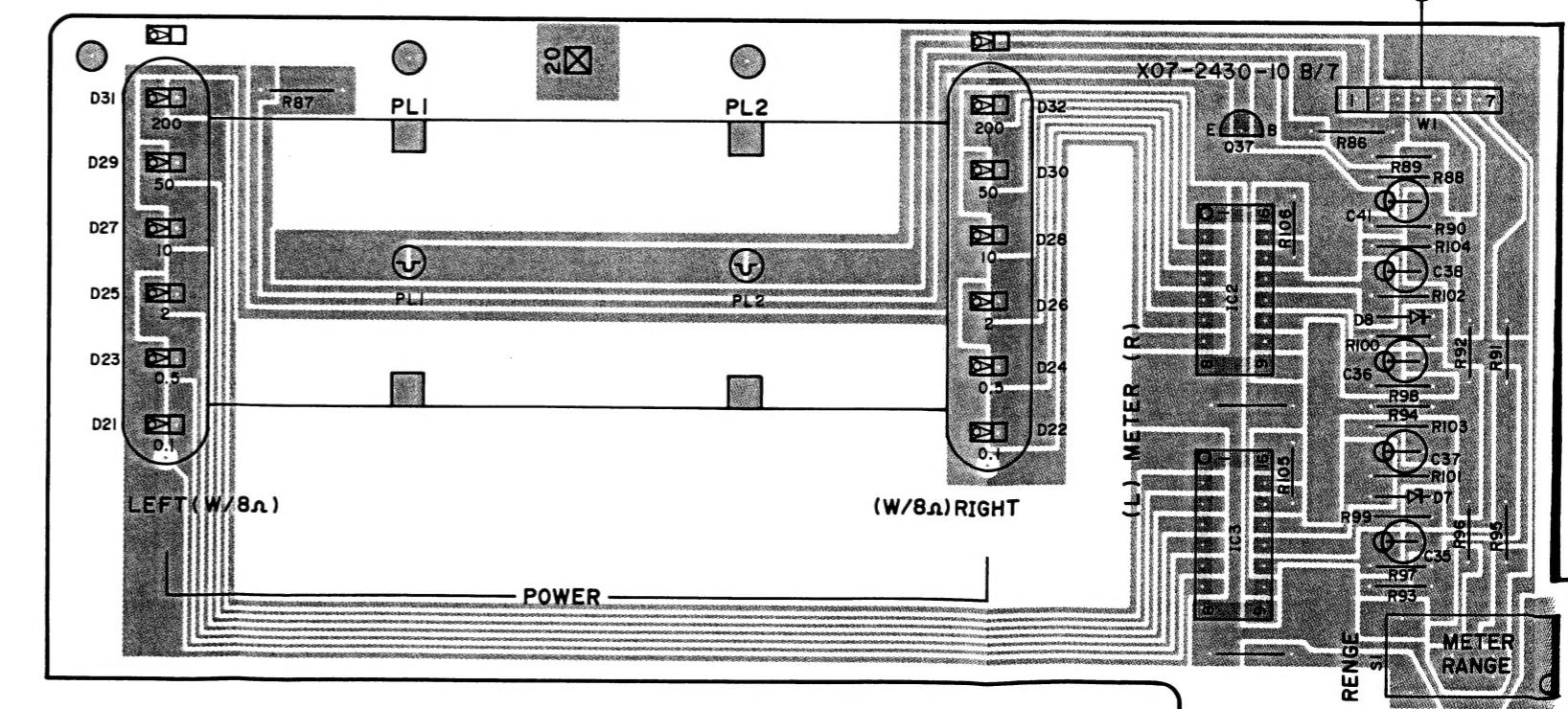
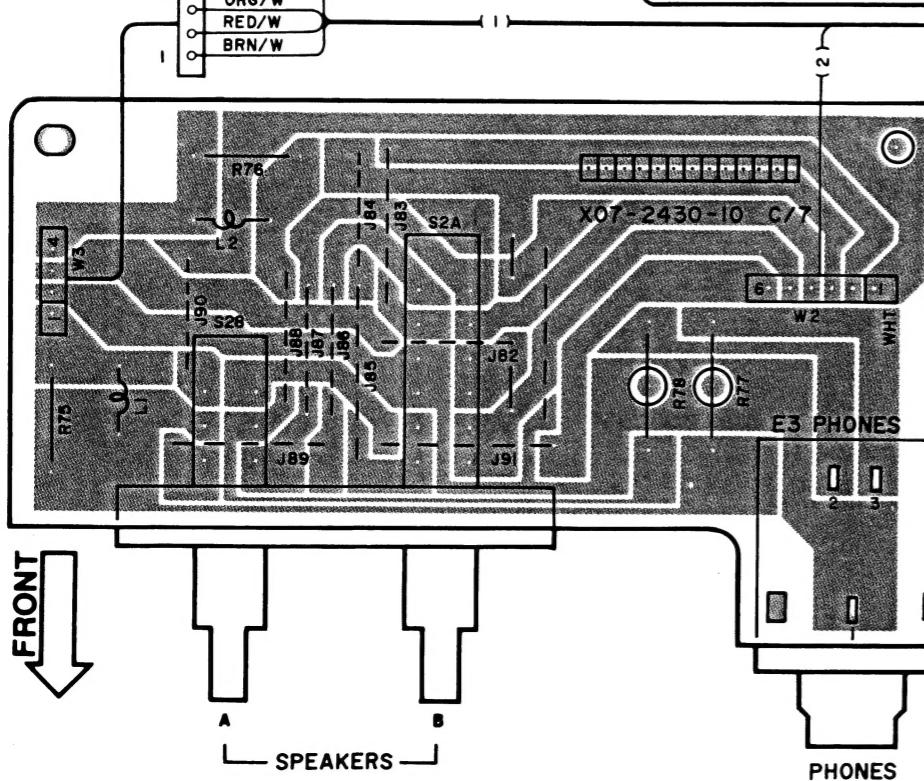
# PC BOARD (Component Side View)

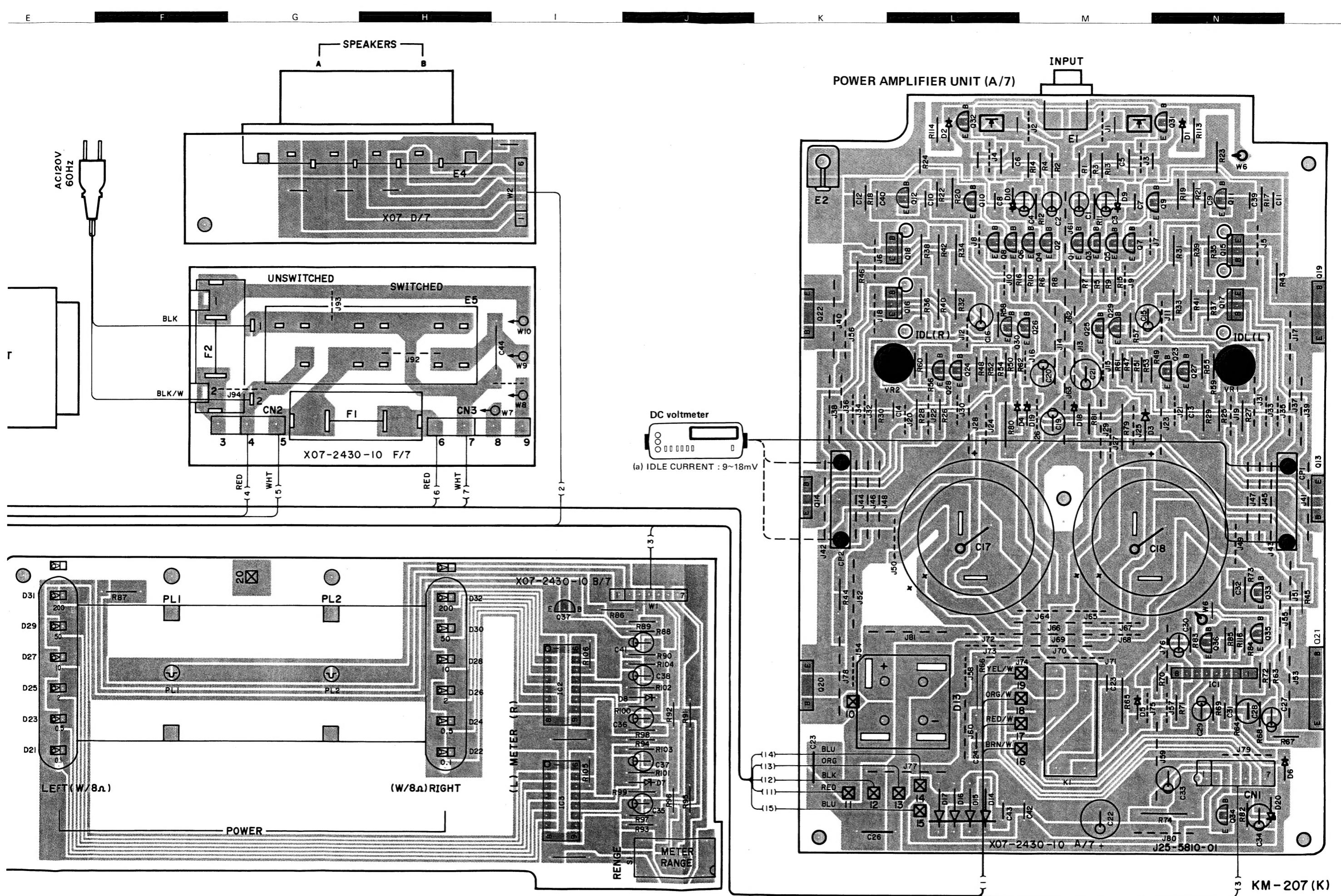
Ref. No.	Address	Ref. No.	Address
IC	Q	IC	Q
1	2M	22	3K
2	2M	23	3N
3	2M	24	3L
4	2M	25	3M
5	2M	26	3M
6	2L	27	3N
7	2M	28	3L
8	2L	29	3M
9	2M	30	3L
10	2L	31	1M
11	2N	32	1L
12	2L	33	5N
13	4O	34	6N
14	4K	35	5N
15	2N	36	5N
16	3L	37	5I
17	2N	1	5N
18	2L	2	5I
19	2O	3	6I
20	5K		
21	5O		

POWER

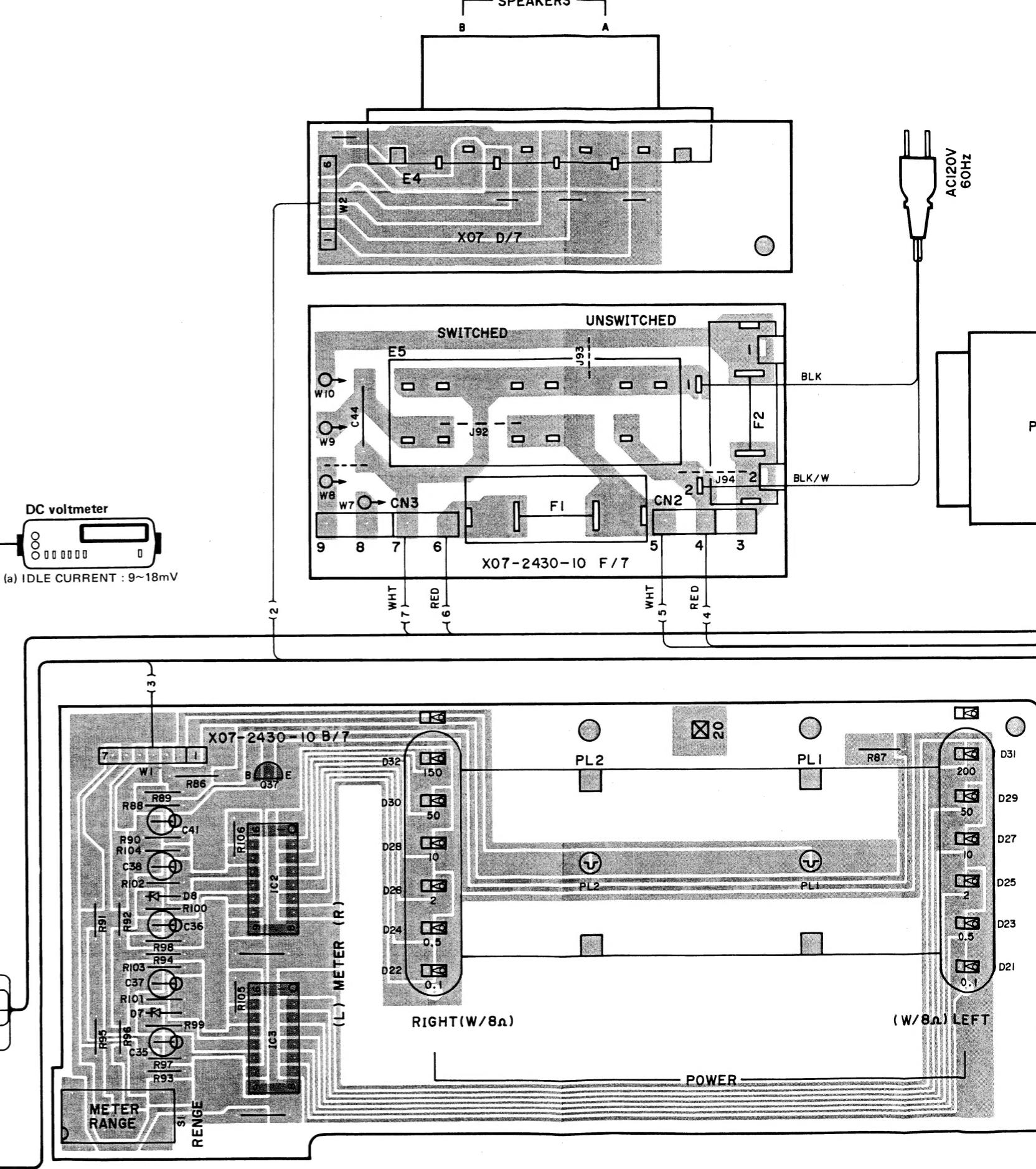
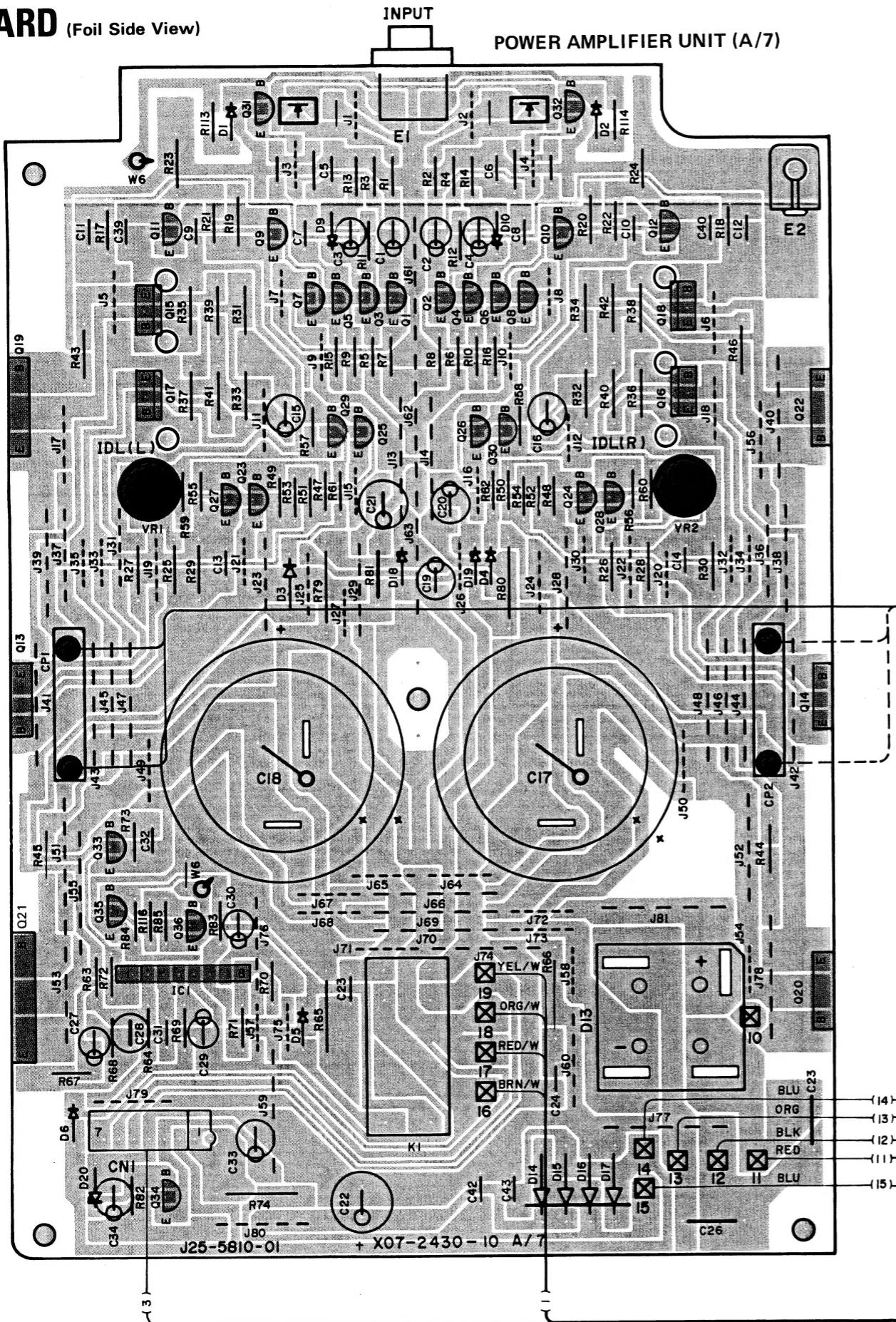
AC120V  
60Hz

(a) IDLE CURRENT : 9~18mV



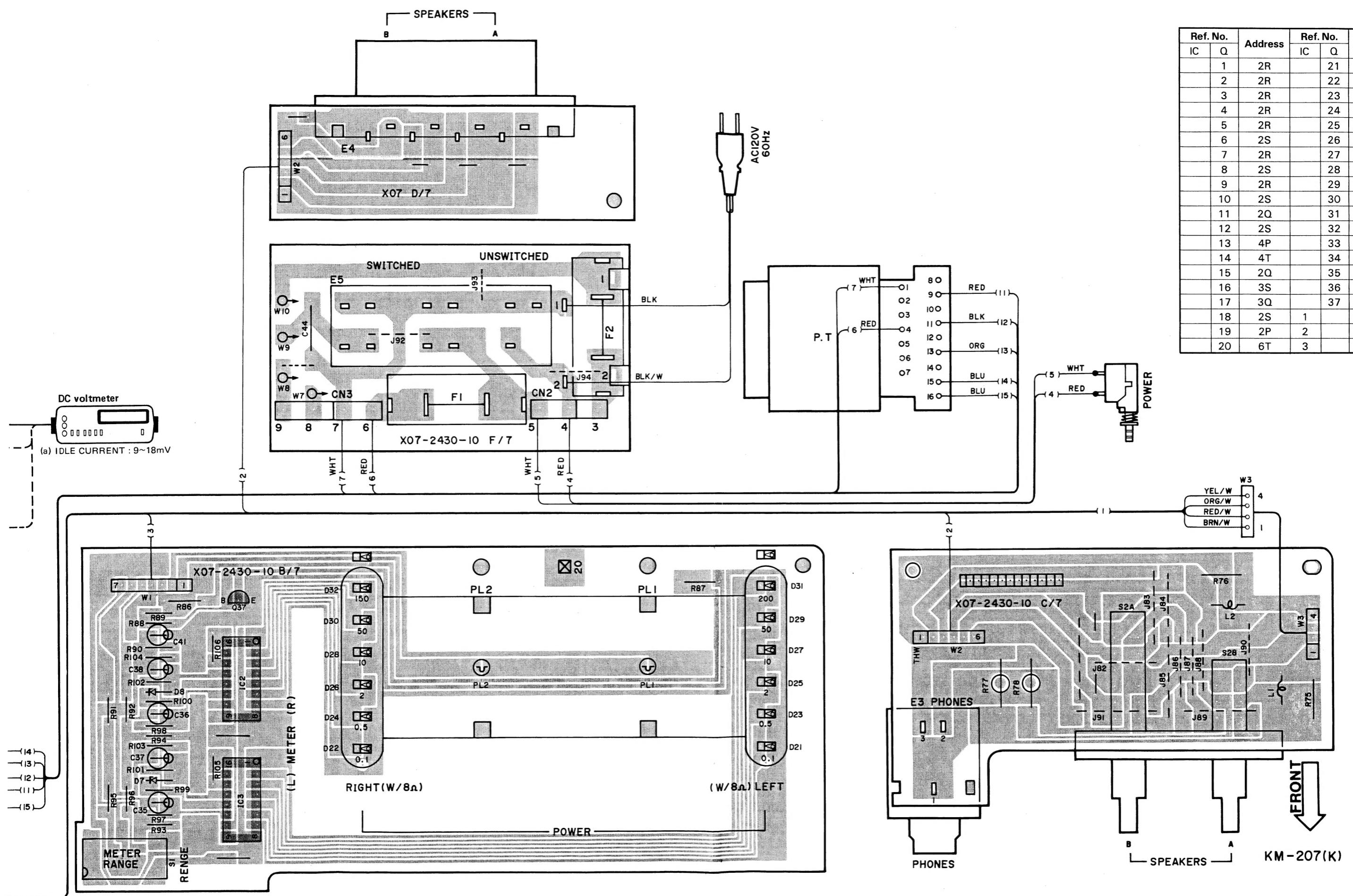


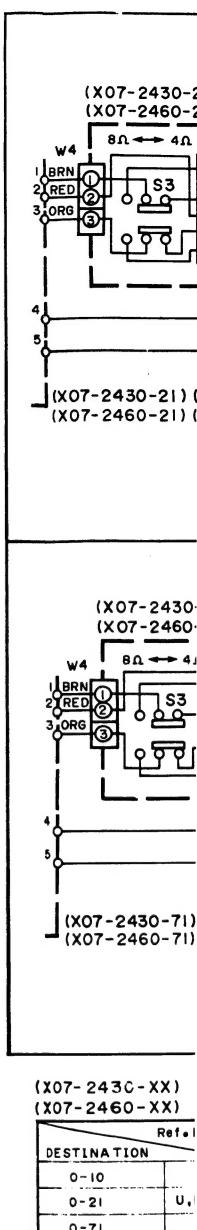
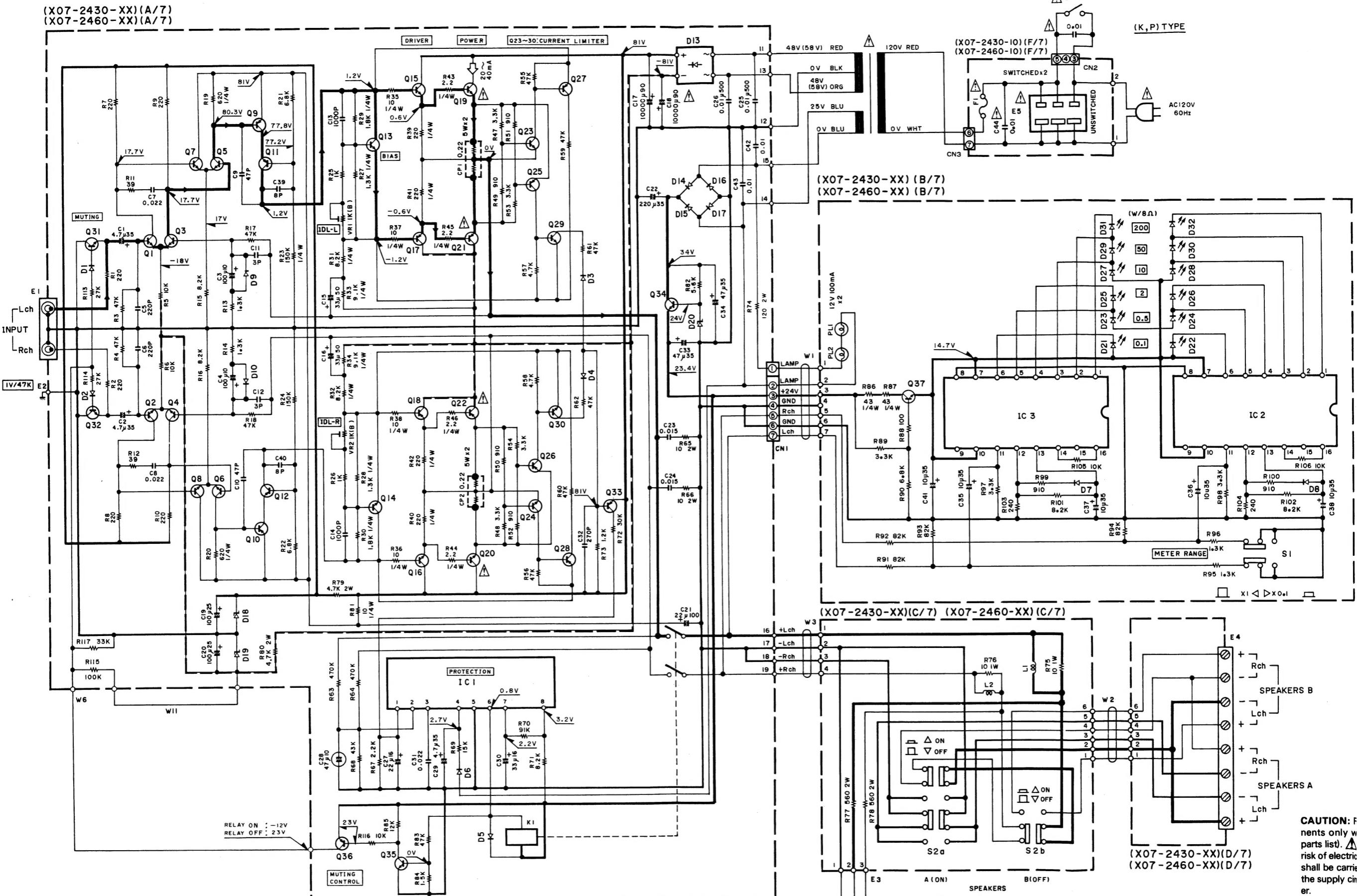
**PC BOARD** (Foil Side View)



AC120V  
60Hz

Ref. No.		Ref. No.	
IC	Q	IC	Q
1	2R	21	5P
2	2R	22	3T
3	2R	23	3Q
4	2R	24	3S
5	2R	25	3R
6	2S	26	3R
7	2R	27	3Q
8	2S	28	3S
9	2R	29	3R
10	2S	30	3S
11	2Q	31	1Q
12	2S	32	1S
13	4P	33	5Q
14	4T	34	6Q
15	2Q	35	5Q
16	3S	36	5Q
17	3Q	37	5V
18	2S	1	5Q
19	2P	2	5V
20	6T	3	6V





(X07-2430-XX)(X07-2460-XX)

Ref. 1
DESTINATION
0-10
0-21
0-71

**CAUTION:** For continued safety, referents only with manufacturer's rec parts list. Indicates safety critical risk of electric shock, leakage-current shall be carried out (exposed parts at the supply circuit) before the appliance er.

SIGNAL LINE  
GND LINE  
+B LINE  
-B LINE

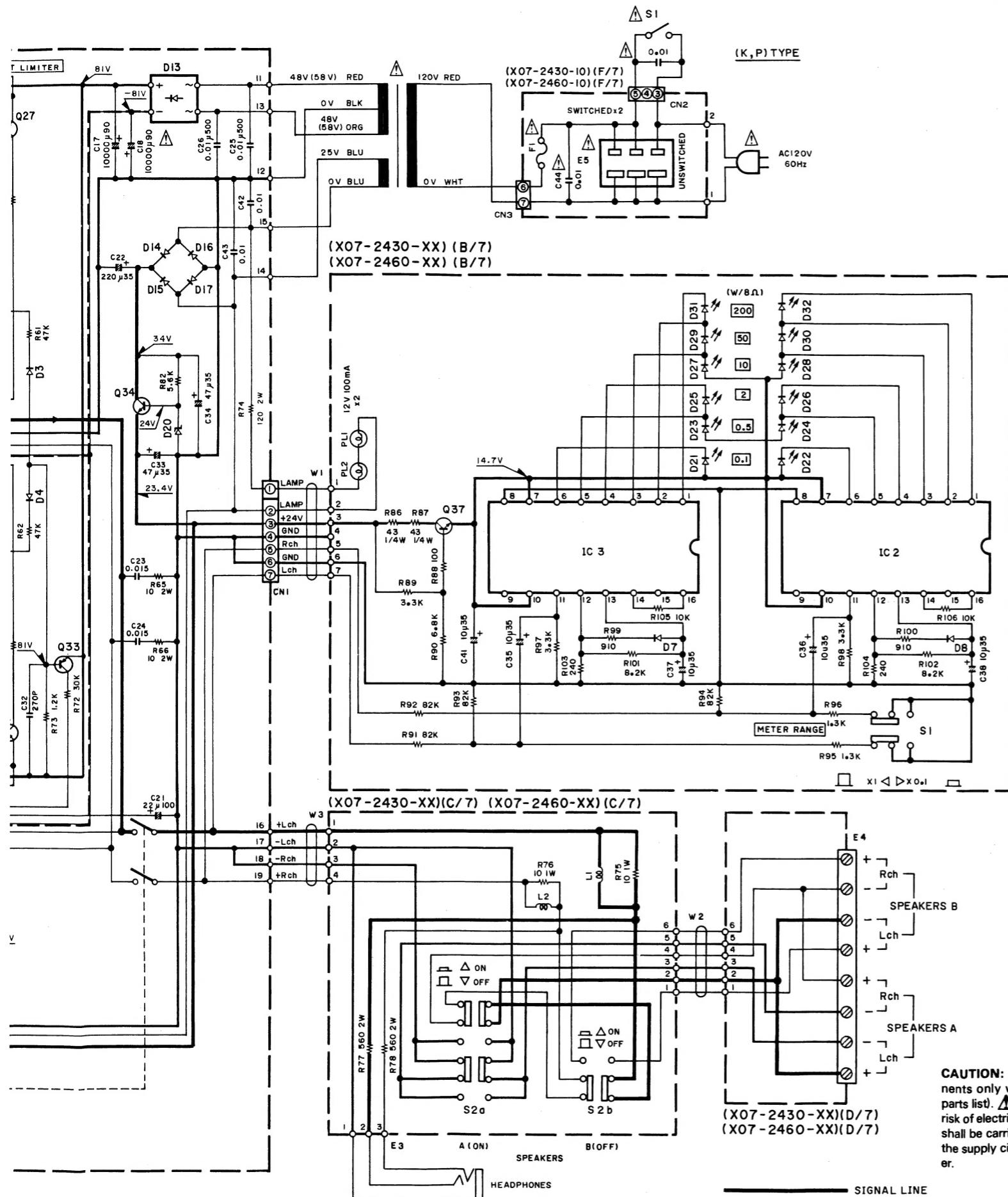
HEADPHONES SPEAKERS SPEAKERS

A (ON) B (OFF)

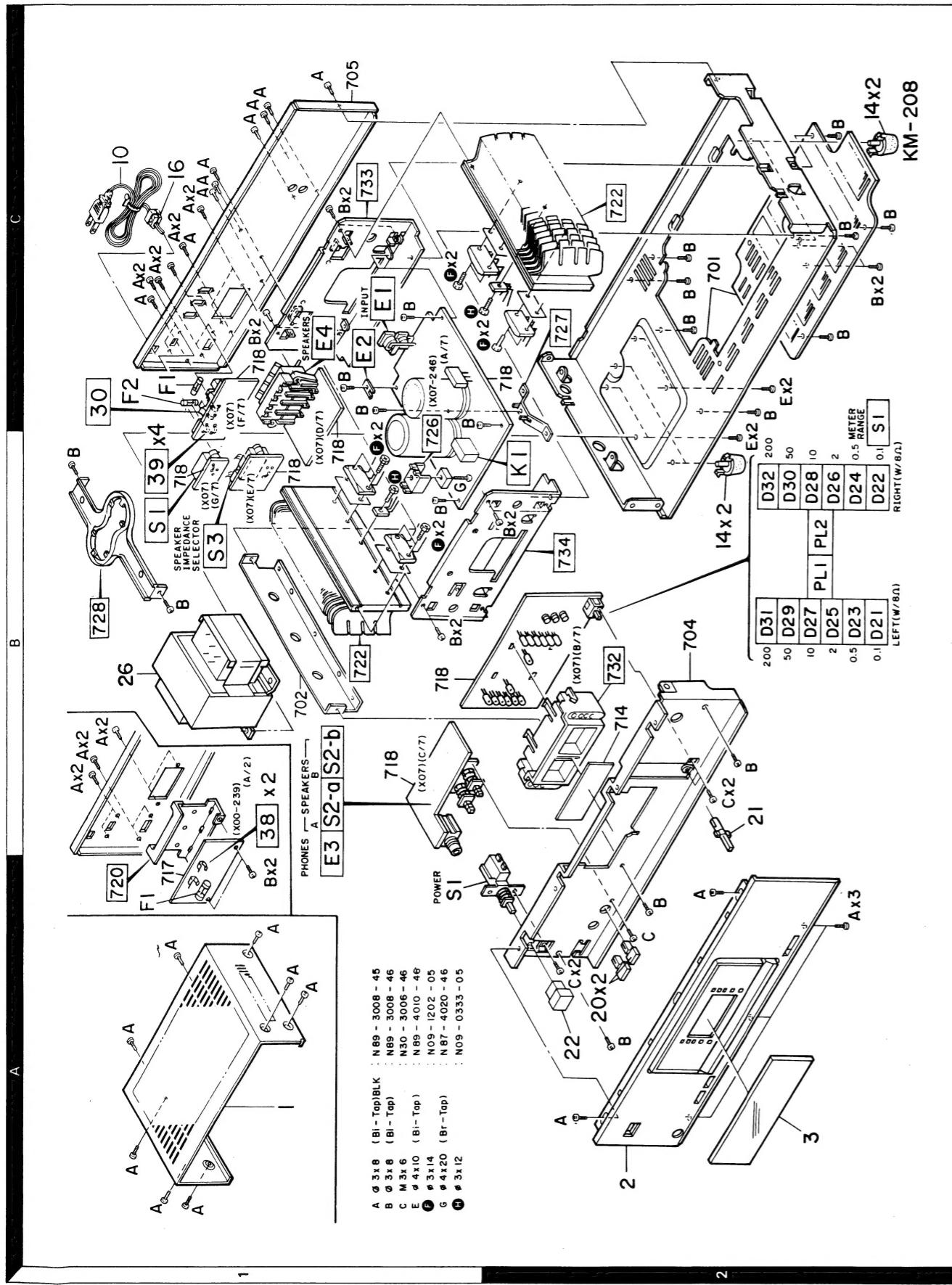
E3

S2a

S2b



## EXPLODED VIEW



Parts with the exploded numbers larger than 700 are not supplied.

## PARTS LIST

\* New Parts

Parts without Parts No. are not supplied.

Les articles non mentionnés dans le Parts No. ne sont pas fournis.

Telle ohne Parts No. werden nicht geliefert.

Ref. No. 参照番号	Address 位置	New Parts 新	Parts No. 部品番号	Description 部品名／規格	Desti- nation 仕向	Re- marks 備考
<b>KM-208</b>						
1	1A	*	A01-1741-01	METALLIC CABINET		
2	2A	*	A20-5754-02	PANEL ASSY		
3	2A	*	B10-1003-03	FRONT GLASS	K	UUE
			B46-0092-03	WARRANTY CARD	UUE	X
			B46-0094-03	WARRANTY CARD	P	
			B46-0095-03	WARRANTY CARD	PMX	
			B46-0096-13	WARRANTY CARD	M	
			B46-0121-03	INSTRUCTION MANUAL	U	
		*	B50-9623-00	INSTRUCTION MANUAL	UE	
			B50-9624-00	INSTRUCTION MANUAL		
		*	B50-9625-00	CAUTION CARD		
			B58-0223-04	(PRE-SET 120V)	U	
			B58-0513-04	CAUTION CARD	UE	
			E30-0812-05	AC POWER CORD	UUEM	
10	1C		E30-1341-05	AC POWER CORD	X	
10	1C		E30-2209-05	AC POWER CORD	KP	
F1	1C		F05-3522-05	FUSE (SEMKO) (250V T3.5A)	X	
F1	1C		F05-7026-05	FUSE (UL) (250V 7A)	KP	
F1	1C		F05-3523-05	FUSE (250V 3.5A)	UUEM	
		*	H01-8511-04	ITEM CARTON CASE		
		*	H10-3847-02	POLYSTYRENE FOAMED FIXTURE		
		*	H10-3848-02	POLYSTYRENE FOAMED FIXTURE		
		*	H25-0223-04	PROTECTION BAG (750X350X0.03)		
		*	H25-0232-04	PROTECTION BAG (235X350X0.03)		
14	2B, 2C		J02-1013-05	FOOT		
16	1C		J42-0083-05	POWER CORD BUSHING		
			J61-0307-05	WIRE BAND		
20	2A	*	K27-0742-14	KNOB (BUTTON) SPEAKER A, B		
21	2B	*	K27-1966-04	KNOB (BUTTON) METER RANGE		
22	2A	*	K27-1965-04	KNOB (BUTTON) POWER		
26	1B		L01-7901-05	POWER TRANSFORMER	KP	
26	1B		L01-7905-05	POWER TRANSFORMER	UUEMX	
C	2A, 2B		N30-3006-46	PAN HEAD MACHINE SCREW		
S1	1A		S40-1094-05	PUSH SWITCH (POWER)		
<b>POWER SUPPLY UNIT (X00-2392-72: X)</b>						
C1			C91-0647-05	CERAMIC 0.01UF P	X	
38	1B		J13-0054-05	FUSE CLIP	X	
			J61-0307-05	WIRE BAND	X	
S1			S31-2126-05	SLIDE SWITCH (POWER TYPE)	X	
<b>POWER AMPLIFIER UNIT (X07-2460-10: K, P, O-21: U, UE, M, O-71: X)</b>						
D21	-32	2B	B30-0431-05	LED(LN21CPH) LAMP (12V, 0.1A)		
PL1	,2	2B	B30-1140-05			
C1	,2		CE04LW1V4R7M	ELECTRON 4.7UF 35WV		
C3	,4		CE04LW1A101M	ELECTRON 100UF 10WV		
C5	,6		CC45FSL1H221J	CERAMIC 220PF J		
C7	,8		CF92FV1H223J	MF 0.022UF J		
C9	,10		CC45FSL1H470J	CERAMIC 47PF J		

E: Scandinavia &amp; Europe K: USA

U: PX(Far East, Hawaii) T: England M: Other Areas

UE: AAFES(Europe) X: Australia

P: Canada

△ indicates safety critical components.

## PARTS LIST

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2	2A	*	A20-5754-02	PANEL ASSY		
3	2A	*	B10-1003-03	FRONT GLASS	K	
			B46-0092-03	WARRANTY CARD	UUE	
			B46-0094-03	WARRANTY CARD	UUE	
			B46-0095-03	WARRANTY CARD	X	
			B46-0096-13	WARRANTY CARD		
			B46-0121-03	WARRANTY CARD	P	
		*	B50-9623-00	INSTRUCTION MANUAL		
		*	B50-9624-00	INSTRUCTION MANUAL	PMX	
		*	B50-9625-00	INSTRUCTION MANUAL	M	
			B58-0223-04	CAUTION CARD (PRE-SET 120V)	U	
			B58-0513-04	CAUTION CARD (PRESET220-240)	UE	
▲ 10	1C	E30-0812-05	AC POWER CORD	UUEM		
▲ 10	1C	E30-1341-05	AC POWER CORD	X		
▲ 10	1C	E30-2209-05	AC POWER CORD	KP		
▲ F1	1C	F05-3522-05	FUSE (SEMKO) (250V T3.5A)	X		
▲ F1	1C	F05-7026-05	FUSE (UL) (250V 7A)	KP		
▲ F1 ,F2	1C	F05-3523-05	FUSE (250V 3.5A)	UEM		
		*	H01-8511-04	ITEM CARTON CASE		
		*	H10-3847-02	POLYSTYRENE FOAMED FIXTURE		
		*	H10-3848-02	POLYSTYRENE FOAMED FIXTURE		
			H25-0223-04	PROTECTION BAG (750X350X0.03)		
			H25-0232-04	PROTECTION BAG (235X350X0.03)		
▲ 14	2B,2C	J02-1013-05	FOOT			
▲ 16	1C	J42-0083-05	POWER CORD BUSHING			
		J61-0307-05	WIRE BAND			
20	2A	K27-0742-14	KNOB (BUTTON)	SPEAKER A,B		
21	2B	*	K27-1966-04	KNOB (BUTTON)	METER RANGE	
22	2A	*	K27-1965-04	KNOB (BUTTON)	POWER	
26	1B	L01-7901-05	POWER TRANSFORMER		KP	
26	1B	L01-7905-05	POWER TRANSFORMER	UUEMX		
C	2A,2B	N30-3006-46	PAN HEAD MACHINE SCREW			
S1	1A	S40-1094-05	PUSH SWITCH (POWER)			
<b>POWER SUPPLY UNIT (X00-2392-72: X)</b>						
▲ C1	1B	C91-0647-05	CERAMIC 0.01UF P	X		
38	1B	J13-0054-05	FUSE CLIP	X		
		J61-0307-05	WIRE BAND	X		
▲ S1		S31-2126-05	SLIDE SWITCH (POWER TYPE)	X		
<b>POWER AMPLIFIER UNIT (X07-2460-10: K, P, 0-21: U, UE, M, 0-71: X)</b>						
D21 -32	2B	B30-0431-05	LED(LN21CPH)			
PL1 ,2	2B	B30-1140-05	LAMP (12V,0.1A)			
C1 ,2		CEO4LW1V4R7M	ELECTRO 4.7UF 35WV			
C3 ,4		CEO4LW1A101M	ELECTRO 100UF 10WV			
C5 ,6		CC45FSL1H221J	CERAMIC 220PF J			
C7 ,8		CF92FV1H223J	MF 0.022UF J			
C9 ,10		CC45FSL1H470J	CERAMIC 47PF J			

E: Scandinavia &amp; Europe K: USA P: Canada

U: PX(Far East, Hawaii) T: England M: Other Areas

UE :AAFES(Europe) X: Australia

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参照番号	位置	新	部品番号	部品名／規格	仕向	備考
<b>KM-208</b>						
C11 ,12		*	CC45FSL1H030C	CERAMIC 3.0PF C		
C13 ,14		*	CF92FV1H102J	MF 1000PF J		
C15 ,16		*	CEO4LW1H330M	ELECTRO 33UF 50WV		
C17 ,18		*	C90-1394-05	ELECTRO 10000UF 90WV		
C19 ,20		*	CEO4LW1E101M	ELECTRO 100UF 25WV		
C21		*	CEO4LW2A220M	ELECTRO 22UF 100WV		
C22		*	CEO4LW1V221M	ELECTRO 220UF 35WV		
C23 ,24		*	CF92FV1H153J	MF 0.015UF J		
C25 ,26		*	CK45FE2H103P	CERAMIC 0.010UF P		
C27		*	CEO4LW1C220M	ELECTRO 22UF 16WV		
C28		*	C90-1334-05	NP-ELEC 47UF 10WV		
C29		*	CEO4LW1V4R7M	ELECTRO 4.7UF 35WV		
C30		*	CEO4LW1C330M	ELECTRO 33UF 16WV		
C31		*	CF92FV1H223J	MF 0.022UF J		
C32		*	CC45FSL1H271J	CERAMIC 270PF J		
C33 ,34		*	CEO4LW1V470M	ELECTRO 47UF 35WV		
C35 ,38		*	CEO4LW1V100M	ELECTRO 10UF 35WV		
C39 ,40		*	CC45FSL1H080D	CERAMIC 8.0PF D		
C41		*	CEO4LW1V100M	ELECTRO 10UF 35WV		
C42 ,43		*	CK45FF1H103Z	CERAMIC 0.010UF Z		
C44		*	C91-0971-05	FILM 0.01UF 250WV	KPUUEM	
30	1C	E03-0078-05	AC OUTLET			
E1	1C	E13-0229-05	PHONE JACK (2P)			
E2	1C	E23-0077-05	TERMINAL			
E2	1C	E23-0149-05	TERMINAL			
E3	1A	E11-0162-05	PHONE JACK (3P)			
E4	1C	E20-0823-05	LOCK TERMINAL BOARD(8P)			
39	1B	J13-0041-05	FUSE CLIP			
L1 ,2		L39-0085-05	PHASE-COMPENSATION COIL			
		N09-0333-05	TAPPING SCREW (3X12)			
		N09-1202-05	TAPPING SCREW (3X14)			
		N09-1777-05	SEMS (TAPTRITE SCREW)			
CP1 ,2		R90-0187-05	MULTI-COMP 0.22X2 K SW			
R19 ,20		RD14GB2E621J	FL-PROOF RD 620 J 1/4W			
R25 ,26		RD14GB2E102J	FL-PROOF RD 1.0K J 1/4W			
R27 ,28		RD14GB2E132J	FL-PROOF RD 1.3K J 1/4W			
R29 ,30		RD14GB2E182J	FL-PROOF RD 1.8K J 1/4W			
R31 ,32		RD14GB2E822J	FL-PROOF RD 8.2K J 1/4W			
R33 ,34		RD14GB2E912J	FL-PROOF RD 9.1K J 1/4W			
R35 ,38		RD14GB2E100J	FL-PROOF RD 10 J 1/4W			
R39 ,42		RD14GB2E221J	FL-PROOF RD 220 J 1/4W			
R43 ,46		RD14GB2E2R2J	FL-PROOF RD 2.2 J 1/4W			
R65		RS14KB3D100J	FL-PROOF RS 10 J 2W			
R66		RS14KB3D100J	FL-PROOF RS 10 J 2W			
R74		RS14KB3D121J	FL-PROOF RS 120 J 2W			
R75 ,76		RS14KB3A100J	FL-PROOF RS 10 J 1W			
R77 ,78		RS14KB3D561J	FL-PROOF RS 560 J 2W			
R79 ,80		RS14KB3D472J	FL-PROOF RS 4.7K J 2W			
R81		RD14GB2E100J	FL-PROOF RD 10 J 1/4W			
VR1 ,2		R12-1083-05	TRIMMING POT. (1K)			
K1	2B	S51-2078-05	MAGNETIC RELAY			

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UE :AAFES(Europe) X: Australia

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Ref. No. 参照番号	Address 位 置	New Parts 新	Parts No. 部品番号	Description 部品名 / 規格	Desti- nation 仕 向	Re- marks 備考
S1	1B		S40-2351-05	PUSH SWITCH		
S2	1B		S42-2163-05	MULTIPLE PUSH SWITCH		
S3	2B		S31-2127-05	SLIDE SWITCH (4Ω→8Ω)	UEEMX	
S4			S31-2126-05	SLIDE SWITCH (POWER TYPE)	UEEM	
D1 ,2			ISS133	DIODE		
D1 ,2			ISS176	DIODE		
D3 -6			ISS131	DIODE		
D3 -6			ISS178	DIODE		
D7 -10			ISS133	DIODE		
D7 -10			ISS176	DIODE		
D13			S15VB20	DIODE		
D14 -17		*	S5566B	DIODE		
D18 ,19			HZS18N(B)	ZENER DIODE		
D18 ,19			RD18ES(B)	ZENER DIODE		
D20			HZS24N(B)	ZENER DIODE		
D20			RD24ES(B)	ZENER DIODE		
IC1			UPC1237HA	IC(POWER AMP)		
IC2 ,3			AN6882	IC(7PT LED LEVEL METER DRIVER)		
Q1 -4			2SC1845(F,E)	TRANSISTOR		
Q5 -8			2SC945(A)(Q,P)	TRANSISTOR		
Q9 ,10			2SA733(A)(Q,P)	TRANSISTOR		
Q11 ,12			2SA1124(Q,R)	TRANSISTOR		
Q13 ,14			2SC3419(Y)	TRANSISTOR		
Q15 ,16			2SC3944A(Q,R)	TRANSISTOR		
Q17 ,18			2SA1535A(Q,R)	TRANSISTOR		
Q19 ,20			2SC2922LB	TRANSISTOR		
Q21 ,22			2SA1216LB	TRANSISTOR		
Q23 ,24			2SC945(A)(Q,P)	TRANSISTOR		
Q25 -28			2SA733(A)(Q,P)	TRANSISTOR		
Q29 ,30			2SC2631(Q,R,S)	TRANSISTOR		
Q31 ,32			2SD1302(S,T)	TRANSISTOR		
Q33			2SA992(F,E)	TRANSISTOR		
Q34			2SC2590(Q,R)	TRANSISTOR		
Q35			2SC945(A)(Q,P)	TRANSISTOR		
Q36			2SA733(A)(Q,P)	TRANSISTOR		
Q37			2SC2003(L,K)	TRANSISTOR		

E: Scandinavia &amp; Europe

K: USA

P: Canada

U: PX(Far East, Hawaii)

T: England

M: Other Areas

UE: AAFES(Europe)

X: Australia

▲ indicates safety critical components.

# KM-208

## SPECIFICATIONS

### Rated Power Output

**150 watts per channel minimum RMS, both channels driven, at 8 ohms from 20 Hz to 20,000 Hz with no more than 0.03% total harmonic distortion.**

### Both channels driven

(8 ohms, 1 kHz) ..... 155 W + 155 W

### Music Power

(8 ohms) ..... 310 W + 310 W

### Total Harmonic Distortion

20 Hz to 20,000 Hz ..... 0.015% at 1/2 rated power into 8 ohms

1 kHz ..... 0.002% at 1/2 rated power into 8 ohms

### Inter Modulation Distortion

(60 Hz:7 kHz = 4:1) ..... 0.002% at rated power into 8 ohms

**Frequency Response** ..... 5 Hz to 200 kHz, +0 dB, -3 dB

### Power Bandwidth

(0.2 % T.H.D., 8 ohms) ..... 10 Hz to 50 kHz

**Signal-to-Noise Ratio (IHF-A)** ..... 120 dB (MAIN IN)

**Damping Factor** ..... More than 35 at 50 Hz

### General

**Power Consumption** ..... 5 A (USA and Canada)  
350 W (Others)

**AC Outlets** ..... Switched 2, Unswitched 1  
(Except some area)

**Dimensions** ..... W 420 mm (16-9/16")  
H 123 mm (4-13/16")  
D 269 mm (10-9/16")

**Weight (Net)** ..... 8.5 kg (18.7 lb)

### Note :

We follow a policy of continuous advancements in developments.  
For this reason specifications may be changed without notice.

### Note :

Component and circuitry are subject to modification to insure best operation under differing local conditions. This manual is based on, the U.S.A. (K) standard, and provides information on regional circuit modification through use of alternate schematic diagrams, and information on regional component variations through use of parts list.

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